

Campus Network (Beutenberg Campus Jena)

Fiber network with about 300 to 1700 meter lengths connecting different buildings on the Beutenberg Campus.



A: Brief Information

Testbed Title	Campus Network (Beutenberg Campus Jena)
Start Point	Abbe Center of Photonics, Jena
End point	Fraunhofer IOF, Beutenberg Campus, Jena
Institution/Organization	Fraunhofer IOF, Beutenberg e.V.
Contact	Dr. Natasa Pavlovic
	Prof. Dr. Fabian Steinlechner, Fabian.Steinlechner@iof.fraunhofer.de
Status	active

B: Technical Information

Type of Transmission	fiber
Length [km]	< 1 km
Losses [dB]	-
Supported Wavelengths [nm]	C-band (1550 nm)
Type of Fiber	single mode

Polarization Stabilization	No
Type of Deployment	underground
Quantum Communication Infrastructure	different sources (DV, entangled, etc.) and detectors available. Availability to external users might be possible.
Available Infrastructure for external Parties	fiber access possible. Limited internet access (no LAN, restricted WLAN)

C: Additional Information

Linked Projects	<ul style="list-style-type: none"> • QuNET: https://qunet-initiative.de • Q-Fiber: https://www.forschung-it-sicherheit-kommunikationssysteme.de/projekte/q-fiber • QuNET+ProQuake: https://www.forschung-it-sicherheit-kommunikationssysteme.de/projekte/qunet-proquake • QuNET+ICLink: https://www.forschung-it-sicherheit-kommunikationssysteme.de/projekte/qunet-iclink • Q-net-Q: https://www.forschung-it-sicherheit-kommunikationssysteme.de/projekte/q-net-q
Press Release and Publications	<ul style="list-style-type: none"> • High-Dimensional Entanglement for Quantum Communication in the Frequency Domain, 09.2023 • Robust Time Transfer with Single Photons on Hybrid Quantum Communication Scenarios in Fiber and Free-Space, 06.2023
Demonstrated Milestone	<ul style="list-style-type: none"> • Key Experiment 1 in QuNET. • On-going inclusion in different system tests and experiments. • Hybrid link infrastructure connected (free-space and fiber links)
Outlook	
Suggested Use Cases	<ul style="list-style-type: none"> • system tests on hybrid links • local networks for multiplexing
Other Comments/ Information	